

Appl. No. 09/822,684
Amdt. Dated 05/05/2004
Reply to Office Action of 03/05/2004

REMARKS/ARGUMENTS

This Amendment is in response to the Office Action mailed 03/05/2004. In the Office Action, the Examiner objected the specification and rejected claims 1 - 34 under 35 U.S.C. § 103. Reconsideration in light of the amendments and remarks made herein is respectfully requested.

Claims 1-34 remain in this application. Claims 6 and 34 have been amended.

Specification

1. **Summary of Invention**

The Office Action requested that Applicants add a "Summary of the Invention" description to the application. However, Applicants would like to kindly point out that both the M.P.E.P. and 37 C.F.R. §1.73 do not require the presence of a "Summary of the Invention" in a patent application. They merely indicate where in the application the "Summary of the Invention" should be placed if Applicants were to elect to include one.

In particular, 37 C.F.R. §1.73 only states that "[a] brief summary of the invention ... should precede the detailed description." 37 CFR §1.73 does not state "must" or "shall." Accordingly, Applicants have elected not to include a "Summary of the Invention" as this is within the discretion of Applicants.

2. The Examiner objects to claims 6 and 34 due to informalities. In response, Applicants have amended claims 6 and 34 according to the Examiner's suggestions to correct minor informalities.

Accordingly, Applicants respectfully request that the Examiner withdraw the objection to the specification.

Rejection Under 35 U.S.C. § 103

4. Claims 1-3 and 13-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Berens et al., U.S. Patent 4,773,036 ("Berens"), in view of Wydall et al., U.S. Patent 6,117,186 ("Wydall"). Claims 4, 8, 16 and 20 were rejected under 35 U.S.C. § 103(a) as being

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unpatentable over Berens and Wydall as applied to claims 1 and 13, and further in view of Hoffman et al., U.S. Patent 5,414,858 ("Hoffman"). Claims 5 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Berens and Wydall as applied to claims 1 and 13, and further in view of Benhase et al., U.S. Patent 5,463,752 ("Benhase"). Claims 6-7 and 18-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Berens, Wydall and Benhase as applied to claims 5 and 17, and further in view of Shih et al., U.S. Patent 6,405,362 ("Shih"). Claims 9-12 and 21-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Laney et al., U.S. Patent 6,366,966 ("Laney"), in view of Benhase and Shih. Claims 25-27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Berens and Wydall as applied to claim 1, and further in view of Sakarda, U.S. Patent 6,189,050 ("Sakarda"). Claim 28 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Berens, Wydall and Sakarda as applied to claim 25, and further in view of Hoffman et al., U.S. Patent 5,414,858 ("Hoffman"). Claim 29 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Berens, Wydall and Sakarda as applied to claim 25, and further in view of Benhase. Claim 30 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Berens, Wydall, Sakarda and Benhase as applied to claim 5, and further in view of Shih. Claims 31-34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Laney in view of Benhase and Shih. Applicants respectfully traverse the rejections and contend that the Examiner has not met the burden of establishing a *prima facie* case of obviousness. Before Applicants discuss the reasons for traverse, a discussion of each of the above cited prior art references may be appropriate.

Berens discloses diskette drive and media type determination. A disk change output from a high capacity (HC) disk drive goes true when power is turned on and whenever the disk media is removed from the drive (Berens, col. 7, lines 7-10). The presence of a diskette is determined by a media sensor within the disk drive (Berens, col. 7, lines 14-16). The disk change line is connected to an input of a digital input register which may be interrogated by the system software (Berens, col. 7, lines 19-21).

Wydall discloses a system and method for easy loading of CD-ROM computer software without installation process. The Windows 95 operating system has an AutoPlay feature which allows the OS to automatically open a CD-ROM. When a CD-ROM disk is placed in the CD-

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ROM drive, the OS looks for a file called autorun.inf on the CD-ROM disk. If the file is found, Windows 95 will open it and carry out its instructions (Wydall, Col. 7, lines 24-30).

Benhase discloses a method and system for enhancing the efficiency of communication between multiple direct access storage devices and a storage system controller. An independent polling function may be implemented in several ways, for example with a separate microprocessor (Benhase, col. 4, lines 24-32). A processor reads status registers and the process resets control registers in preparation for the next poll cycle (Benhase, col. 5, lines 21-23).

Shih discloses automatic software installation and cleanup. Setting a value in a shared memory location is used to declare an event (Shih, col. 9, lines 4-7). A shell provides a portion of the user interface for the operating system (Shih, col. 6, lines 26-27). An event monitor is invoked by the shell and waits until it is notified by the shell that a compact Flash, memory card, or other removable medium has been inserted in or removed from the PC (Shih, col. 6, lines 41-46).

Laney discloses a method and system for automatically running a program. The operating system periodically polls a CD-ROM drive regarding the status of the drive to determine if the status has changed (Laney, col. 2, lines 29-31).

Sakarda discloses a method and apparatus for adding or removing devices from a computer system without restarting. A hard disk couples through device port to Intelligent Device Enabler (IDE) bus. Any devices installed on primary and secondary IDE buses are separately controlled by a PCI/IDE bus controller (Sakarda, col. 5, lines 13-18).

Hoffman discloses a system and method for dynamically varying between interrupt and polling to service requests of computer peripherals. The system initiates the interrupt mode and determines the need for transition to a polling mode as defined by a combination of an interrupt count and elapsed time (Hoffman, col. 3, lines 62-66).

Berens, Wydall, Benhase, Shih, Laney, Sakarda and Hoffman taken alone or in combination, does not disclose, suggest, or render obvious (1) configuring a mode word, and/or (2) detecting insertion of a medium into a drive based on the mode word.

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Regarding claims 1-3 and 13-15, Berens merely discloses the presence of the disk drive is detected by a media sensor within the disk drive. The disk change output is not a mode word. It is a signal output from the HC disk drive. This output cannot be configured because it is asserted true whenever the disk media is removed from the drive. Since neither Berens nor Wydall discloses a mode word, neither Berens nor Wydall discloses that the detection of media insertion is based on the mode word as recited in claim 1. Furthermore, since the disk change signal can only assume two states: true and false, it cannot be used for four modes as recited in Claim 2.

Regarding claims 4, 8, 16, and 20, as discussed above, Berens, Wydall, Benhase, Shih, Laney, Sakarda and Hoffman taken alone or in combination, does not disclose, suggest, or render obvious (1) configuring a mode word, and/or (2) detecting insertion of a medium into a drive based on the mode word. Hoffman merely discloses a technique to transition or switch between an interrupt mode and a polling mode for servicing peripheral devices (Hoffman, col. 3, lines 30-33). The interrupt mode is initiated when the rate drops below a defined threshold value while in polling mode (Hoffman, col. 3, lines 37-61). The rate drop is not the same as when the mode is configured in one of the second, third, and fourth nodes.

Regarding claims 5 and 17, Berens, Wydall, and Benhase, taken alone or in combination does not disclose servicing the interrupt generated by a polling circuit in a chipset when the mode is configured in the second or third mode as recited in claim 5. None of them discloses configuring a mode word as discussed above. None of them discloses, suggests, or renders obvious an interrupt generated by a polling circuit in a chipset. Benhase merely discloses a separate microprocessor to implement an independent polling function. The microprocessor is not a polling circuit in a chipset. Furthermore, Benhase merely discloses the interrupt status data is received by the independent polling means (Benhase, col. 4, lines 50-51), not the independent polling means generating the interrupt.

Regarding claims 6-7 and 18-19, Berens, Wydall, Benhase, and Shih, taken alone or in combination, does not disclose, suggest, or render obvious (1) checking a status bit set by the polling circuit when the mode is configured in the second mode, (2) updating a flag in a memory based on the status bit, and (3) responding to a poll request by an operating system as recited in

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claim 6. None of Berens, Wydall, Benhase, and Shih, discloses configuring a mode word as discussed above. None of Berens, Wydall, Benhase, and Shih discloses an interrupt generated by a polling circuit in a chipset as discussed above. Shih merely discloses a shell and an event monitor to wait for a notification that a medium has been inserted or removed. Since the event monitor waits for the notification, it cannot check for a status bit or update a flag in a memory.

Regarding claims 9-12 and 21-24, Laney, Berens, and Shih, taken alone or in combination, does not disclose, suggest, or render obvious (1) checking a status bit in response to an interrupt generated by a polling circuit in a chipset, the polling circuit detecting insertion of a medium into a drive, (2) updating a flag in a memory based on the status bit, and (3) responding to a poll request by an operating system, as recited in claim 9. Berens and Shih are discussed above. Laney merely discloses the operating system to poll a drive. Therefore, Laney does not disclose or suggest a polling circuit in a chipset generating an interrupt. An interrupt is an external asynchronous event and triggered by a hardware mechanism, not by a software mechanism using the operating system. Laney in fact teaches away from the invention by disclosing use of a software polling approach as opposed to a hardware interrupt approach.

Regarding claims 25-27, Berens, Wydall and Sakarda, taken alone or in combination, does not disclose instruction code causing the processor to (1) configure a mode word, (2) detect insertion of a medium into a drive based on the mode word, and (3) start a program on the medium when the insertion is detected as recited in claim 25. As discussed above, none of Berens and Wydall discloses configuring a mode word. Sakarda merely discloses SMI firmware processor detecting that CD-ROM device is inserted into device port and updating device memory indicator to indicate the presence of this new device (Sakarda, col. 7, lines 45-51). Detecting the presence is not the same as configuring a mode word and detecting insertion of a media based on the mode word.

Regarding claim 28, Berens, Wydall, Sakarda, and Hoffman are discussed above. In addition, as discussed above, Hoffman merely discloses switching to interrupt mode when the rate drop below a threshold, not based on the mode word.

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Regarding claim 29, 30, 31-34, none of the cited prior art references disclose configuring a mode word and detecting insertion of a media based on the mode word as discussed above.

Benhase, Shih, and Laney are discussed above in the respective aspects of the claimed invention.

Accordingly, Applicants respectfully request that the Examiner withdraw the 35 U.S.C. § 103(a) rejections.

Conclusion

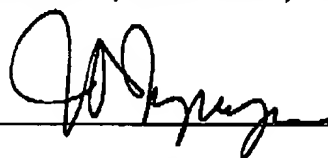
Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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Dated: 05/05/2004

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